Amendments of specification - April 13, 2006

Page 3, first and second full paragraphs

In accord with the invention, a leaching chamber is provided with a length which is substantially shorter than chambers in the prior art. The length is more suited to the capabilities of a typical worker to handle; and thus, the invention chamber is referred to as an Ergonomic Length Chamber, ~~of~~ or ELC.

In accord with the invention a leaching chamber has a length between about 4 ft and about 5 ft, preferably about 4 ft, and less than 100 percent of the mean height of an American male (and his associated ability to grasp an object with outstretched arms). Thus, a chamber can be removed from a nested stack by one worker grasping both ends, and is easier to manipulate when installing as part of a string, as described in the Background. Preferably, ~~and~~ an ELC chamber has ~~an~~ a length to width aspect ratio of between 1.2 and 1.6, compared to aspect ratios of 2 and more in the prior art, and thus the mass is more concentrated and the chamber is easier to manipulate; and, the chamber weight is less than about 3 pounds per foot, or about 12 pounds for a 4 ft chamber.

Page 5, second and third paragraphs

A preferred embodiment ELC chamber, chamber Q, has several new features, subject of other patent applications, as described further below. Compared to the prior art chambers, it is shorter at 4 ft, it has a continuous arch shape curve, smaller pitch corrugations, substantially thinner ~~an~~ and variable thickness perforated sidewalls, variable height slots, and much lower weight. Chamber Q joints comprise a dome shape portion and allow up to plus or minus 10 degrees of angling between the chambers. Another embodiment of the invention, embodies mostly prior art. It has features, including arch shape and male/female overlapping/overlapped latching type end joint detail which ~~is~~ are characteristic of widely sold commercial chambers, such as Infiltrator brand chambers (Infiltrator Systems, Inc., Old Saybrook, CT, US). The features of such chambers have been described in various patents, including U.S. Pat. No. 5,336,017 and U.S. Pat. No. 5,551,903, the disclosures of which, about chamber features and configuration, are hereby incorporated by reference.

Chamber joints transfer vertical loads between the mated chambers and resist lengthwise separating or compressing loads. Chambers with an older latching type joint transfer loads both to and from a given chamber, and are intended for essentially linear (straight line) interconnection of chambers. A new chamber Q joint mostly transfers load from the overlapping chamber. A characteristic of such chambers and joints is that, through looseness of fit, they allow up to plus or minus 3 degrees of angling from parallel alignment of the longitudinal axes LX of the chambers. Thus, a gradual curve, having a total turning angle A, as illustrated by the plan view of chambers 20 in Fig. 3 can be achieved by a string of interconnected chambers having length L.

Page 6, first paragraph

The ability of a chamber string to curve in the horizontal plane can be described in terms of a "curve factor", that is the curve angle in degrees per foot of chamber length. Refering to the data just above For chambers with the 3 degree angling capability at each joint the curve factor is increased from about 0.45 for a 6.25 ft chamber to about 0.72 for a 4 ft chamber. For the ELC chamber range of 4-5 ft, the curve factor in degree/ft is in the range 0.57 to 0.72. The same proportionate effect will be achieved for chambers having other kinds of joints with other plus or minus accommodations. For example, if chambers, such as the chamber Q shown in Fig. 4, are adapted to connect with a swivel joint which allows a maximum included angle of plus or minus 10 degrees swing, then use of the ELC invention chambers provides greater total curving in a particular direction, for any given string length. For example a 100 ft string of 4 ft chambers will curve through a maximum total angle A of about 240 degrees, compared to an angle of about 150 degrees for a 100 ft string of 6.25 ft long prior art chambers.

Page 8, first full paragraph

Thus, the prior art difficulty in lifting a nested 6 ft long and 3 ft wide prior art chamber (having an actual overall length of just over 76 inch), and then manipulating the chamber to make a joint can be understood, along with the advantage of the invention. The typical prior art chambers are somewhat more than 10% longer than the median male height, and thus unwieldy. The preferred about 4 ft long ELC chamber is about 70-75% of the median male-female person height. At about 5 ft length or less, ELC chamber will be less than about 100% of the median person height. The exact percentage varies with whether median male or female is being referenced. (To the extent updated statistical data may show the mean height of people to be bigger than the data

referenced herein, the percentages and chamber lengths might be increased~~increasesed~~ somewhat within the teaching herein.)

Page 9, first three paragraphs

Preferably, a chamber in accord with the present invention is constructed in accord with the teachings about chamber design, construction, and function in patent application serial number 10/677,938~~(Atty No. 2229)~~ of R. Brochu et al., entitled Corrugated Leaching Chamber, filed on even date herewith, the disclosure of which~~,~~ is hereby incorporated by reference. Such a chamber, employing the ELC length of 4 ft, is marketed as the Quick4™ chamber by Infiltrator Systems of Old Saybrook, CT, US. It is made by injection molding of thermoplastic, preferably polypropylene or high density polyethylene, and has a weight of just under 12 pounds. Such a chamber is illustrated in Fig. 4, and is designated as Chamber Q in Table 1. Chamber Q has seven peak corrugations 122 running up along a continuous curve arch shaped as a semi-ellipse.

Slot perforations 30 in sidewalls of the peaks 122 and valleys 124 of chamber Q allow percolation of water. The first end 74 of chamber is a relatively plain arch. The second end 76 has a dome shape, to receive end 74 of a second like chamber, and form a joint which will transfer vertical and lengthwise loads, to or from a mated chamber, in a way functionally close to the prior art chambers, while allowing greater angling than heretofore. Chambers are kept from separating at the joints by engagement of molded pin 82, which engages molded pocket 84 of a like chamber when the end 74 of the like chamber is overlapped on end 76. ~~as a second chamber is laid into the trench and mated with a first chamber, previously described.~~ The joints between chambers Q preferably provide for plus or minus 10 degree angling between the lengths of mated chambers. Chamber Q joints are substantially different from the prior art and simpler to make in the trench, but that the installer still has to worry about contacting the side of the trench with the end of the chamber, ~~,~~particularly in view of the flexibility aspect discussed below, so there is a good benefit of the ELC design for chambers Q.

The chamber Q interior and exterior ~~of the corrugations~~ are smooth. That is, the corrugated body section is free of strengthening ribs, which characterize prior art chambers. The sidewalls where there are lengthwise slot perforations 30 are about 0.15-0.2 inch thick, which is thin compared to the prior art chambers. Thus, chambers Q nest more closely and tightly, when stacked one on the other for transport. The basic chamber wall thickness in locations away from the portions having perforations are about 0.09 inch thick.

Page 10, first full paragraph

The aspect ratio of a chamber, as used here, is the ratio of length to width, measured at the base of the arch shape cross section. Chamber width is commonly measured as width of the base flange, which ordinarily extends an inch or two from the bottom of the larger peak arch corrugation. Chambers which are about 34 inch wide may have actual flange-to-flange base dimensions in the range of about 32-36 inch. Small aspect ratios, for instance for chambers which are short but widelong but narrow make a chamber comparatively and ergonomically better, and easier to install. For example, in a limiting case, it is easier to manipulate round bar of plastic, rather than a standard 6 X 3 X 1 ft chamber or other object, where weight and length are equal. Prior art chambers are difficult to handle because of a combination of length and high aspect ratio, in addition to the other relationships mentioned above.